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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,659	11/28/2001	Manabu Kagami	P 284170 T36-137764M/KOH	8435

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EXAMINER	
ANGEBRANNDT, MARTIN J	
ART UNIT	**PAPER NUMBER**
1756	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/994,659	KAGAMI ET AL.	
	Examiner	Art Unit	
	Martin J. Angebranndt	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28 and 38--55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28 aand 38-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The response of the applicant has been read and given careful consideration. Responses to the arguments are presented after the first rejection to which they are directed.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 38,39 and 45-47 and 49are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are numerous misspellings of chemical components in these claims:

"metacryloyl" (cl. 38,39), "hydroxyketon" (45-47), "aminoketon" (45-47), "1-on" (thrice, cl 47), "phenylketon" (47), "methyltio" (47), dimetoxybenzoil",(47) "t rimethyl" (47), "trimethylbenzoil" (47), "pyroyl" (47) and "titan" (47) and "mealloncene" (49) . The applicant can look to the discussion below for the correct chemical names.

"...the amounts of exposure ... includes ...mJ/cm^2" appearing in claims 53 and 54 is vague and indefinite as it is not clear if these are upper or lower limits and that the intensity has to be more than the recited values. The examiner has interpreted the claims for the purposes of examination as the latter.

4. Claims 51-54 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 requires the use of two different wavelengths.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-28,38-39, 44, 48, and 55 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Kagami et al. JP 2000-347043.

Kagami et al. JP 2000-347043 (different inventive entity from instant application) teaches dipping an optical fiber into a solution of a mixture of photocurable monomers, irradiating the solution through the fiber with a first wavelength to selectively cure one of the monomers and form a waveguiding core (figures 3 a-c), followed by irradiating uniformly from the sides with a second wavelength to form a cladding (figure 3d) [0039-0040] and example 1 [0032]. The formation of step index waveguides is disclosed with respect to figure 4 [0041]. The formation of graded waveguides is disclosed with respect to figure 6 [0048]. Formulae describing the propagation of the light as a function of the refractive indices appear throughout the reference (and the machine translation thereof accompanying this action). The use of an **acrylic monomer**

system (free radical) and an **epoxy monomer** system (cationic) is clearly disclosed [0034]. The acrylic monomer (A) is disclosed as having a higher sensitivity than the epoxy (B) monomer in figure 2 and wavelength 1 is shown to be shorter than the longest wavelength able to cure monomer A, but longer than that able to cure monomer B.

The applicant argues that the selective use of free-radical or cationic polymerization is not taught. This is entirely incorrect and without merit. The applicant is directed to the use of acrylic monomers, which undergo free radical polymerization and epoxy monomers which undergo cationic polymerization and their different spectral sensitivities as shown in figure 3, which is identical to figure 17 of the instant specification. The fact that they have different spectral sensitivities as evidenced by figure 3 and the disclosure of separate curing of the first monomer in the cited example followed by the simultaneous curing of both meets the limitation of the claims clearly evidences that the disclosed methods anticipate the broadly claimed invention. The examiner points to the example of section [0034], which specifically describe an acrylic and epoxy monomer mixture. The broadly claimed invention of the cited claims is anticipated by the cited Japanese publication and in the now allowed US application to the same assignee. Drafting the claims of the instant application so that they do not overlap with the disclosures of the cited Japanese publication and the corresponding allowed US application would reduce the issues. The rejection stands.

The applicant had argued that the epoxy was not cured by cationic polymerization. The examiner notes that the applicants specifically describe the use of epoxies in the instant specification and in claim 38. The also examiner points to the use of cationic polymerization mechanism of curing epoxies within the art as evidenced by Kawabata et al. '494. The features

argued as not taught are clearly taught in the portion of the reference cited, please note the same figures are used and show the same type of curing as those in the instant application. To suggest that the reference is not functioning in the manner disclosed in that reference (ie photopolymeriztion takes place with respect to the first irradiation) is without merit as the different spectral sensitivity shown in figure 2 specifically addresses this issue. The applicant could obviate this rejection by perfecting priority. This could also be addressed by a sworn declaration by one of the common inventors specifically stating that the epoxy used was not cured using a cationic mechanism as the applicants are in a position to address this question of fact.

The applicant is arguing that the epoxies disclosed are not cationically cured. To rebut this the examiner has pointed both the Kawabata et al. and the applicants's own specification to address the issue of this being inherent. The position of the examiner being that it is somewhat untenable for the applicant to adopt a position divergent from thier own specification. If this is really the position that the applicant wishes to adopt, **the examiner agrees this is a factual question that the one of the applicants of the instant application and also named as an inventor in the Kagami et al. JP 2000-347043 and Kagami et al. '188 references applied can address this in a declaration.** ***The declaration would have to state at least that the they are familiar with the Kagami et al. JP 2000-347043 or Kagami et al. '188 references and the experiments disclosed therein, disclose the compositions used including any photoinitiation systems used in these experiments and state for the record that any photoinitiation systems used do not induce cationic or radical photopolymerization.*** Clearly as the The acrylic monomer (A) is disclosed as having a higher sensitivity than the epoxy (B) monomer in figure 2

and wavelength 1 is shown to be shorter than the longest wavelength able to cure monomer A, but longer than that able to cure monomer B, the separate curing precludes them from curing by the same mechanism. The citation of Kawabata et al. is presented to evidence that the epoxies inherently photocure cationically and to thereby support the position that the separate photocuring is by a cationic polymerization mechanism as this is known in the art. Upon receiving this declaration addressing the facts of the experiments of Kagami et al. JP 2000-347043 and Kagami et al. '188, the examiner would reassess the position ands based upon the quality of the evidence in the declaration and the statements therein may withdraw the rejections based upon Kagami et al. JP 2000-347043 and Kagami et al. '188. The examiner is not aware of anionic photopolymerization of epoxies being used within the optical waveguide arts. The applicant has declined to address this question of fact (page 25 of the response) merely stating that the photoinitiation system is not disclosed. The examiner holds the position that the epoxy does not photocure on its own, particularly at a different portion of the spectrum from the radiacally polymerizable composition. The examiner notes that the earliest filing date is before the publication date of the reference.

The applicant reiterates their position, without any logical framework to support this contention. The examiner has provided a logical and clear basis for his position and the secondary references (such as Kawabata et al) support the position. As noted by the examiner, the applicant is in a postion know the composition used in the Kagami et al. references applied and to execute a declaration based this knowledge, thereby clarifying the record. The applicant does not even trouble with actually suggesting alternative polymerization mechanisms which could polymerize both. The examiner has shown the common usage of cationic

PHOTOpolymerization for curing epoxy resins and free radical PHOTOpolymerization for curing acrylates in Kawabata et al and other references of record. The further limiations appearing in the added claims are addressed by new references. The examiner notes that some foteh photoinattors are commercially available and cannot reasonably confer patentability without some sort effort by the applicant. The rejection stands.

8. Claims 1-28,38-39,44,48 and 55 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kagami et al. '188 (which matured from application 09/534458).

Kagami et al. '188 (different inventive entity from instant application) teaches dipping an optical fiber into a solution of a mixture of photocurable monomers, irradiating the solution through the fiber with a first wavelength to selectively cure one of the monomers and form a waveguiding core (figures 3 a-c), followed by irradiating uniformly from the sides with a second wavelength to form a cladding (figure 3d) (11/44-12/15) and example 1 (9/32-11/40). The formation of step index waveguides is disclosed with respect to figure 4 (12/15-33). The formation of graded waveguides is disclosed with respect to figure 6 (13/39-14/20). Formulae describing the propagation of the light as a function of the refractive indices appear throughout the reference. The use of an **acrylic monomer** system (free radical) and an **epoxy monomer** system (cationic) is clearly disclosed (10/1-10). The acrylic monomer (A) is disclosed as having a higher sensitivity than the epoxy (B) monomer in figure 2 and wavelength 1 is shown to be shorter than the longest wavelength able to cure monomer A, but longer than that able to cure monomer B. This could also be addressed by a sworn declaration by one of the common inventors specifically stating that the epoxy used was not cured using a cationic mechanism as the applicants are in a position to address this question of fact.

In addition to the above the examiner notes that if the reference was not anticipatory and the instant application and Kagami et al. '188 were commonly owned, then the applicant would have the ability to exclude the use of Kagami et al. '188 in a 103, under 103(c) by a mere statement of the applicant's representative.

The rejection stands for the reasons above.

9. Claims 1-28, 38-39,44,48,49 and 55 are rejected under 35 U.S.C. 103(a,c) as being unpatentable over Kagami et al. JP 2000-347043 or Kagami et al. '188, in view of Kawabata et al. '494.

Kawabata et al. '494 teaches the use of cationically curable materials (epoxies) mixed with free radically curable species (acrylates) and the separate curing of one of these via proper wavelength selection to facilitate refractive index imaging. (abstract, 1/31-37 and examples). Specific cationically curable materials include epoxies, polyglycidyl ethers, glycidyl ethers, and others (3/20-64). Useful free radically curable materials include acrylates, methacrylates, and others. (3/65-4/40). The use of onium salts for initiating free radical and cationic polymerization is disclosed. (col 5-6 and examples 14-18). The onium salts can be diaryliodonium or triarylsulfonium or iron allene complexes (5/67-6/3). The use of light in the 300-1220 nm range is disclosed.

It would have been obvious to use cationically and free radically curable monomers known to be useful in refractive index imaging with selective curing, such as those disclosed by Kawabata et al. '494 in place of the acrylates and epoxies specifically disclosed in the examples of Kagami et al. JP 2000-347043 or copending Application No. 09/534458 with a reasonable

expectation of success based upon the disclosure of equivalence in refractive index modulation by Kawabata et al. '494.

The applicant argues that the burden of prima facie has not been met. The examiner disagrees, noting that the use of photoinitation systems, such as those disclosed by Kawabata et al. '494 as useful with acrylate and epoxide system and allowing them to be separately cured would be desirable additions to the compositions of either Kagami et al. JP 2000-347043 or Kagami et al. '188 to increase the photosesntiivity of the acrylate and/or epoxies as well as increase thier spectral sensitivity. The rejection stands.

The rejection stands for the reasons above.

10. Claims 1-28 and 38-39,44-50 and 55 are rejected under 35 U.S.C. 103(a,c) as being unpatentable over Kagami et al. JP 2000-347043 or Kagami et al. '188, in view of Kawabata et al. '494 combined with Wu et al. '061, Akutsu et al. '510, Dhar et al. '721, Matsumoto et al. '445 or Kamen et al. '172.

Wu et al. '061 teaches the use of various free radical photoinitiators including 1-hydroxy-cyclohexylphenyl ketone, 2-methyl-1-[4-(methylthio)phenyl]-2-morpholino-propan-1-one, 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl)butan-1-one [0020] in waveguide forming compositions.

Akutsu et al. '510 teach dual curing systems including cationic and free radically polymerizable systems. Useful cationic photoinatators include onium salts, such as 4,4'-bis[di-(hydroxyethyoxy)phenylsulfonio]phenylsulfide bis-hexafluoroantimonate and iron arene complexes. (5/5-60). Useful cationically curable materials include epoxies, vinyl ethers, lactones and the like (5/61-7/11). Free radical polymerizable compounds are disclosed (7/31-9/9). Free

radical photoinitiators include 2-hydroxy-2-methyl-1-phenylpropan-1-one, acetophenones, 1-hydroxycyclohexylphenyl ketone, 2-methyl-1-[4-(methylthio)phenyl]-2-morpholino-propan-1-one, 2-benzyl-2dimethylamino-1-(4-morpholinophenyl)butan-1-one, trimethylbenzoyldiphenylphosphine oxide and bis(cyclopentadienyl)-bis[2,5-difluoro-3-pyrryl]*phenyl* (sic) titanium. (9/15-51).

Dhar et al. '721 teach cationic photoinitiators useful in holographic recording and include a disclosure of onium salts (iodonium, sulphonium) and ferrocenium salts such as cyclopentadienyl cumene iron (3/1-29). The addition of sensitizers to sensitize these to wavelengths greater than 300 nm is disclosed. (3/29-47). The use of the 488 nm line of the argon ion laser is disclosed. (3/25)

Matsumoto et al. '445 teach the use of various photoinitiators including 2-hydroxy-2-methyl-1-phenylpropan-1-one, acetophenones, 1-hydroxycyclohexylphenyl ketone, trimethylbenzoyldiphenylphosphine oxide, bis(2,6,-dimethyoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide, bis (2,4,6-(trimethylbenzoyl)phenylphosphine oxide, bis(cyclopentadienyl)-bis[2,5-difluoro-3-pyrryl]phenyl (sic) titanium and cyclopentadieyl-arene-iron. (22/56-23/65). These can be used in holographic recording systems. (24/12-13).

Kamen et al. '172 teach free radical photoinitiators including 2-hydroxy-2-methyl-1-phenylpropan-1-one, 2,2-dimethyoxy-2-phneylacetophenone, 1-hydroxycyclohexylphenyl ketone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-propan-1-one, 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl)butan-1-one and bis(2,6,-dimethyoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide (9/35-55). Cationic photoinitiators include onium salts, particularly triaryl sulphonium salts. (col 10)

To address the embodiments including the limitations of the additional claims, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of either (Kagami et al. JP 2000-347043 or Kagami et al. '188) with Kawabata et al. '494 by using other photoinitiators such as those disclosed by Wu et al. '061, Akutsu et al. '510, Dhar et al. '721, Matsumoto et al. '445 or Kamen et al. '172 in place of those used or disclosed by Kagami et al. JP 2000-347043, Kagami et al. '188 or Kawabata et al. '494 with a reasonable expectation of forming a useful polymeric waveguide

11. Claims 1-28 and 38-39,42-44,48,49 and 55 are rejected under 35 U.S.C. 103(a,c) as being unpatentable over Kagami et al. JP 2000-347043 or Kagami et al. '188, in view of Kawabata et al. '494 combined with Nagasaka et al. '709 and Neckers et al. '802.

Nagasaka et al. '709 teach the curing a free radical based systems using light of 650 nm (9/30-10/40).

Neckers et al. '802 teaches the cationic polymerization of a composition using an onium salt photoinitiator, which has been sensitized using ethyl erythrosine to light of 520 nm is disclosed. (14/34-41).

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the combination of either Kagami et al. JP 2000-347043 or Kagami et al. '188 with Kawabata et al. '494 by using known photoinitiators and other wavelengths known to be useful in curing free radical and cationic curable compositions such as the 650 and 520 nm wavelengths taught by Nagasaka et al. '709 and Neckers et al. '802 with a reasonable expectation success in forming the waveguide.

12. Claims 1-28 and 38-41,44,48,49 and 55 are rejected under 35 U.S.C. 103(a,c) as being unpatentable over Kagami et al. JP 2000-347043 or Kagami et al. '188, in view of Kawabata et al. '494 combined with Dhar et al. '721 and IES Lighting Handbook (1972), pp 8-41 to 8-42.

Dhar et al. '721 teach cationic photoinitiators useful in holographic recording and include a disclosure of onium salts (iodonium, sulphonium) and ferrocenium salts such as cyclopentadienyl cumene iron (3/1-29). The addition of sensitizers to sensitize these to wavelengths greater than 300 nm is disclosed. (3/29-47). The use of the 488 nm line of the argon ion laser is disclosed. (3/25)

IES Lighting Handbook (1972), pp 8-41 to 8-42 evidences that mercury lamps emit at 385 nm (figure 8-56).

In addition to the basis above, it would have been obvious to modify the combination of either Kagami et al. JP 2000-347043 or Kagami et al. '188 with Kawabata et al. '494 by using known photoinitiators and other wavelengths known to be useful in curing free radical and cationic curable compositions such as the 488 nm line of the argon ion laser of Dhar et al. and the mercury arc lamp cure (which emits at 385 nm, see IES Lighting Handbook (1972), pp 8-41 to 8-42) of Kawabata et al. '494 with the resulting photosensitive composition with a reasonable expectation of initiating the curing for both free radical and cationic curing.

13. Claims 1-28 and 38-41,44,48,49 and 51-55 are rejected under 35 U.S.C. 103(a,c) as being unpatentable over Kagami et al. JP 2000-347043 or Kagami et al. '188, in view of Kawabata et al. '494 combined with IES Lighting Handbook (1972), pp 8-41 to 8-42, Yamamoto '127 and Colvin et al. '648.

Yamamoto '127 teaches the use of 385 nm light to cure free radical based system where the photoinitator is 2-methyl-1-[4-(methylthio)phenyl]2-morpholinopropan-1 one (Irgacure 907). [0033].

Colvin et al. '648 teaches the use of a precure and the imagewise exposure of different intensities to selectively cure two different acrylate monomers where the exposure wavelength can be the same and the same photoiniator is used. (3/66-4/10).

It would have been obvious to one skilled in the art to modify the combination of either Kagami et al. JP 2000-347043 or Kagami et al. '188 with Kawabata et al. '494 by using known photoinitiators and other wavelengths known to be useful in curing free radical and cationic curable compositions such as 385 nm light of Yamamoto '127 and the mercury arc lamp cure (which emits at 385 nm, see IES Lighting Handbook (1972), pp 8-41 to 8-42) of Kawabata et al. '494 with the resulting photosensitive composition with a reasonable expectation of initiating the curing for both free radical and cationic curing and providing a selective cure based upon the difference in the intensity of the light as is known in the art through Colvin et al. '648 and based upon the use of the same photoinitiator for both free radical and cationic polymerization by Kawabata et al. '494 and the use of a single photoinitiator to facilitate both curing steps by Colvin et al. '648.

14. Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 08-320422, in view of Anderson 702 and Kagami et al. JP 2000-347043.

JP 08-320422 teaches coupling various optical elements together, including laser diodes and optical fibers as shown in figures 58 and 62. The use of exposure from both direction is

disclosed to facilitate improved coupling (lens like formation). Adjustment of the alignment is not disclosed. Note the disclosure with respect to figure 5.

Anderson '702 establishes that it is old and well known in the art to position the optical fiber for maximum power transfer from the diode laser prior to curing the epoxy using light (4/9-26)

It would have been obvious to one skilled in the art to modify the invention of JP 08-320422 by performing an alignment to maximize coupling efficiency as taught by Anderson '702 as this is old and well known in the art and further, it would have been obvious to one skilled in the art to modify the invention of JP 08-320422 combined with Anderson 702 by using the composition and two step curing of Kagami et al. JP 2000-347043 to improve the refractive index control of the core Vs. the cladding layers.

The applicant's arguments that the references applied are unrelated fails to appreciate the fact that they are all within the filed of fiber optics and waveguiding of light. The exposure from both directions to facilitate curing is not required by the claims and further, the use of two directions for exposure is disclosed by JP 08-320422. The optical transmission module is merely the optical connection between the fiber optical and other optical elements, such as detectors and the like. The examiner also notes that the formed articles clearly deal with waveguiding devices. The rejection stands for the reasons of record.

This rejection stands for the reasons above as the applicant has not provided any arguments to contradict this.

15. Claims 1-28 and 38-39 of this application conflict with claims 1-8 and 11 of Kagami et al. '188.

37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

The declaration suggested by the examiner could address this issue as well. Irrespective of any ownership issues, maintaining patentable distinctness between claims is clearly desirable.

The applicant's analysis of the coverage is somewhat myopic, based upon the relationship between the two assignees and the prevalence of cross licensing between Japanese companies. At the end of the day, it would seem that any patent issuing from this application and Kagami et al. '188 would be the subject of such a cross licensing agreement and this is mandatory with respect to the Japanese applications.

16. Claims 1-28 and 38-39 are directed to the same invention as that of claims 1-8 and 11 of Kagami et al. '188. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

The applicant argues that they are not commonly assigned. The examiner points out that the assignees are both divisions of Toyota and that there are inventors in common. If the applicant continues to assert that these are in fact two different entities, then perhaps interference proceedings should occur. The assignees are invited to initiate such a procedure when the instant claims are otherwise allowable. This rejection is maintained until such time as interference proceedings are initiated. It is not clear what the relationship between these two division of Toyota are. If the applicant continues to assert that they are separate entities, then the applicant should request an interference under rule 37 CFR 1.607.

The rejection stands for the reasons above.

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. Claims 1-28 and 38-39,44,48,49 and 55 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,890,589. Although the conflicting claims are not identical, they are not patentably distinct

from each other because they both claim the use of a dual cure composition having a free radical and cationic curable material (see claims 12 and 13) and the use of two wavelengths (claim 11).

The assignee is the same.

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ostler et al. '099 and Moon et al. '111 teach the use of multistage curing techniques with photopolymerization systems.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Martin J Angebranndt
Primary Examiner
Art Unit 1756

12/18/06
~~7/7/2006~~